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HISTORY AND DESCRIPTION

OF

NEEDLE MAKING.

PRICE ONE PENNY.

By Post for Two Stamps.



BY MICHAEL T. MORRALL,

7, HIGH STREET, MANCHESTER,

BALMORAL HOUSE, MATLOCK.



40

\$ 9.50

ABEL MORRALL,
NEEDLE AND THIMBLE MANUFACTURER,
Warehouses, 4, Gresham Street, City London,
& 7, High Street, Manchester ;
Manufactory, Studley Mills, Nr. Bromsgrove.

The principal processes now exhibiting in the
Machinery Department of the International Ex-
hibition, Class 7 B., & Crystal Palace Sydenham.



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MICHAEL T. MORRALL, 7, HIGH-ST., MANCHESTER,
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1862.

ENTERED AT STATIONERS' HALL.

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PREFACE.

In presenting the Third Edition of this little work to the public, it gives me great pleasure to state, that the History and Description of Needle Making, on its first appearance in 1862, was kindly noticed by the press, and well received by the Needle Makers; many of them having expressed to me their satisfaction and surprise that I had procured so much information, as no history of needle making had ever before been published. Descriptions of the processes have at times appeared in the magazines, but the writers who visited the manufactories at Redditch, treated the subject more as a puff for the manufacturers who entertained them, so that very little was known to the public respecting it, previous to the Great Exhibition of 1851. The official description on Abel Morrall's case, in Class 22, gave but little information, as it was very defective; it has been amended and forms part of this work. The cases of needles shewn in the Exhibition were not much noticed, but visitors were most anxious to see needles made by Abel Morrall's machinery in Class 6; and many notices of needle making appeared in the news-papers during the time of the Exhibition, which has brought the trade prominently before the public. The frequent applications from

persons connected with the press, for a history of the art, was one reason that induced me to compile the history of needle making.

This useful branch of manufacture has been the staple trade of Studley, my native village, from time immemorial, and my family are engaged in the business, and have been for at least six generations, and have introduced most of the improvements that have been effected in the modern needle—one of the most useful implements of the world.

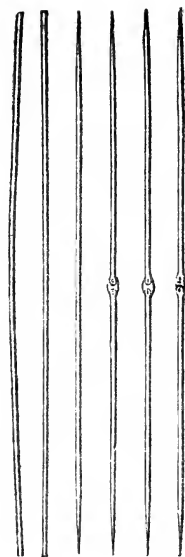
It is indeed an important little article; and before writing its history, I visited the places in England where needles are made. At Long Crendon, in Buckinghamshire, I was gravely informed that Solomon Shrimpton, a native of that village, first introduced needle making into the neighbourhood of Redditch at the beginning of the present century. I answered my informant, that such tales would not do for a history of needle making, as it is well known, that needles were made in that locality, long before any needle maker came there from Long Crendon; as I remember an old man called George Wigget a native of Studley, who was near one hundred years old: this old man could give no information as to the introduction of needle making, but said when he first went out to work, it was to turn Alcock's mill at Sambourne, near Studley, used for pointing and scouring needles, and that in his day, Studley was the principle place for needle making. Having

examined records and consulted the oldest needle makers, I find the old man's testimony to be worthy of credit. In following this interesting research through past ages, it is found the trade becomes gradually smaller, and at last is obscured in certain families at Studley and Alcester.

I have traced this useful art between Studley, Alcester, Redditch, London, Long Crendon, Chester, and other places, and have gathered up the fragments of its history to compose this little work. The first Edition came in useful for the Reporters at the Dublin Exhibition, the second Edition came out in 1854, in time for the opening of the Crystal Palace, at Sydenham, and which contains many facts not recorded in the first, and in this present Edition will be found new facts and interesting matter, obtained from various sources although the authorities are not always stated; my object having been to collect facts which may prove useful at some future time. I hope the Reporters will find this equally beneficial at the International Exhibition of 1862.

MICHAEL T. MORRALL

7, *High Street, Manchester.*



Needles in their different stages of manufacture, SEE OFFICIAL DESCRIPTION, page 32.

No. 1, below, A. Morrall's Egg Eyed Sewing Needle.

No. 2, The Old Fashioned Square Eyed Darning Needle.

No. 3, A. Morrall's Improved Egg Eyed Darning. See Page 37.



1



2



3

THE NEEDLE.

CHAPTER I.

High up in the Lebanon nestling amongst the mulberry trees, stands a village called Eden, believed by many people in the land, to be the first home of Adam and Eve, where the first sewing was ever done, when as we are informed "they sewed fig leaves together to make themselves aprons." How true to Nature is this, for do we not remember how in very early life; we fastened together leaves for our adornment, with thorns gathered from the May Bush, little thinking that the same thing had been done ages before in Eden, and that the most gorgeous dress originated in a fig leaf.

How simple then appears the origin of needles; if as is supposed they were first made out of thorns. Our Sacred records state that Tubal Cain worked in iron and brass; and that one of the rivers running out of Eden contained gold which was pronounced good: we may infer that the gold was good for the making of useful and ornamental articles; and at that early date there may have been needles made of gold, as also of iron or brass. In Dr. Abbott's Museum, at Cairo, is a wood needle of extremely old date, together with a piece of sewing, taken out of the tomb of an Egyptian lady. At the Dublin Exhibition there was a collection of bone and bronze needles, found in Ireland and Denmark. In the City Museum London, there are some specimens of old British needles. In this country formerly, the upper classes used gold and silver needles, and some estates were held by the annual payment of one or two of these costly articles.

There is a custom observed yearly, at Queen's College, Cambridge, when the Bursar gives to every member a needle and thread, in remembrance of the founder, whose name being *Egglesfield*, was deduced from two French words, *Aiguille Fil*: a needle and thread.

Henry V, when Prince of Wales, was a student in this College, and "He came into his father's presence in a strange disguise, being in a garment of blue satin, wrought full of eyelet holes, and at every eyelet the

HISTORY AND DESCRIPTION

needle left hanging by the silk it was wrought with." The habit of a scholar was so very different from that of a soldier in those days, that nothing could better allay the king's suspicions than this silent declaration of attachment to literature and renunciation of the sword. (*Speed's Chronicle.*)

We know an old Scotch woman who says in her younger days she darned her stockings with a wood needle. There are at this day Indian women, who sew with needles of porcupine quill, and thread made of the sinews of the deer. There are the fish-bone, that the Greenlanders and the South Sea Islanders use; the women of one race sitting in their snow burrows stitching by the light of their oil lamps; and the women of the other race wearing while at work, a great palm leaf on their heads for shade, and cooling themselves occasionally by a swim in the calm waters, within the coral reef; the Chinese claim to have made steel needles from a remote period, we have seen some good needles that were made in that Empire. A correspondent writing from Shanghai, says, at Ningpo there is a needle manufactory, where you may see men grinding long steel bars to the necessary fineness, by rubbing them with their hands upon a stone, then notching them at the required lengths, breaking them off and filing the points, while little boys take up the wondrous tale and punch the eye in each individual needle.

CHAPTER II.

The Spaniards are said to be the inventors of steel needles in Europe, and to have taught the Germans the art of making them; and it was from these countries that we derived our supplies of steel needles, until a sufficient quantity were made at home. Little is known of the history of many of our useful arts before the Reformation, the records of the Monasteries, &c., having been destroyed, or dispersed at the dissolution of religious houses; and it is only by the perseverance of the learned tailor Stowe, (who spent his life in gathering up the scattered records,) that we have any information; and when Stowe became old and

poor, the king granted him "Letters Patent," to beg from our loving subjects in the churches, for one year, and so little were his labours appreciated, that the alms were scarcely worth collecting, so the king graciously allowed him to beg a little longer, hoping thereby he might be better remunerated.

If we had the records of the Augustine Priory, at Studley, they would perhaps enlighten us about needle making in that parish, which is probably the original place in England, where this branch of industry arose. A general idea prevails, that needles have always been made here, and the inhabitants cannot conceive a time when there were no needles made in their village.

The oldest needle making families are Rawlins and Blundell. The Morralls are descended from the former family, in the female line. There is a tradition which is supported by the Roll of Battel Abbey, that these families originally came from Normandy; A needle manufacturer, on a visit at Studley, from Normandy, recognised the Morralls, there being a family named, de Morall in the part he came from. Needles were at an early period made in Wales; we have not procured the date of its introduction, and can only state that needles continued to be made at Welsh Wenlock, until about the year 1790, the Welsh needle makers have followed the trade into Warwickshire.

The earliest record of needle making in London is in the year 1545, during the reign of Henry VIII., and the most general idea is, that this useful branch of industry was introduced by a Moor from Spain, who also, it is said, about the year 1563, commenced the making of his own wire, which gave him the pre-eminence over the needle makers in the other parts of the kingdom, who had to import theirs from Spain and Germany.

Stowe, in his chronicles states, that when the first Queen Mary reigned, needles were sold in Cheapside and some other busy streets of London, and that they were at that time made by a Spanish Negro, who refused to disclose the secrets of his art. How long the Moor enjoyed his exclusive privileges Stowe does not state. Another author, taking up the thread of the narrative,

states that the art was lost at the Negro's death, but was soon after recovered by one Elias Karuse, a German, and other skilled workmen who came over from France, Flanders, and Germany, during the reign of Elizabeth, and thus the trade was re-established in London, and the sale of needles greatly extended throughout England, Wales, and Ireland; the importation becoming every year smaller, until it entirely ceased, and exportation commenced. It may be mentioned here, as a curious incident, that soon after the execution of King Charles, Cromwell's government resolved to apprentice Elizabeth Stuart, the second daughter of the late king, to a needle maker;* but from the time the princess was made acquainted with the government's intentions, her spirits became depressed, her health declined, and her demise in 1650, prevented this cruel and tyrannical resolution being carried into effect.

It appears that this trade was commenced at Long Crendon, in Buckinghamshire, by one Christopher Greening, who, with his wife and three children, settled in that pretty village about the year 1650, having been brought there by the influence of a family named Damer, who took an interest in that locality. No mention is made of the place where the Greenings came from; perhaps they were Londoners, Long Crendon being nearer the metropolis than to Studley; and we may infer that the London needle makers were a considerable body at this time, from the fact of their being incorporated by Charter only six years later, namely, on the tenth day of November, one thousand six hundred and fifty-six, the 8th. of Charles II., (commonly called Cromwell's time.)

The trade at Long Crendon possesses some distinctive characteristics, the smaller kinds of needles used for domestic work do not appear ever to have made much progress, the goods produced here being of a larger description, namely, sail and packing needles, together with those used for netting and surgical purposes. The

*The author has not been able to ascertain the name of this needle maker, nor the place of his residence, any person furnishing such information will confer a favour.

making of knitting pins and pillow lace forming part of the staple trade of the village. The inhabitants of this place, by frequent intermarriages, may be considered as one family; they have a general family resemblance, being decidedly Danish in their appearance; they have about half-a-dozen family names, that of Shrimpton being the most numerous. The people are most of them musicians, which often leads to drinking and neglect of business. This place presents no apparent advantage for needle making, it being destitute of water power, and it is fourteen miles from Aylesbury which is the nearest Railway Station, the only means of conveyance being a London waggon, reminding a stranger of the picture in Dick Whittington. When at Long Crendon, we dilligently enquired respecting the Damers and Greenings; those with whom we conversed said that no such names had ever existed in the neighbourhood. Having procured a local directory, we find that the only information on this subject is, that Lord Dormer is Lord of the Manor, and we are led to conclude that the name is not correctly spelt in the old volume afterwards referred to. The Dormers are Roman Catholics; the family mostly resides in Warwickshire, and the name of Greening may still be met with amongst the needle makers of that county

The restoration of King Charles II. gave an impetus to the needle trade; the court and people never dressing more extravagantly than during this reign; the king granted a magnificent coat of arms to the needle makers—the crest, an apple tree and serpent; a shield of green with three needles in a line, ducally crowned; supporters, a man on the right side and a woman on the left—the woman holds a needle in her dexter hand. The apple tree and serpent now forming the back ground of the arms, or may be left out, the crest being a Moor's head in profile, wreathed about the temples and coped at the shoulders, and in his ears a pearl. The heraldist, who is seldom at a loss in searching out a genealogy when it is necessary, has given the shield Adam and Eve for supporters, and a motto, "They sewed fig leaves together and made themselves aprons;" the inference

of course being that needles must have been employed even at that period, and thus that it is a manufacture which commenced almost with man himself, and is closely connected with the history of the human race, wherever gathered or scattered on the face of the earth.

By the needle, we may infer, were made the simple attire of the first martyr, Abel, and his murderer, Cain, the garments of righteous Noah, and those that were destroyed by the flood; Joseph's coat of many colours, and his long flowing robes in which he made himself known to his brethren in Egypt, where they went buying corn. The needle was no doubt used in forming the dress of the infant Moses, in which he was presented to Pharaoh's daughter; by it was also made the shepherd's dress and the royal robes of David; and at least, the hem of the garment of the Holy One of Israel, for which the Roman soldiers cast lots without the gates of Jerusalem.

Holy Scripture tells us about the veil of the Holy of Holies; and we read of the garments of the priests being beautifully embroidered. The mother of Sisera says unto her maidens, "Take unto Sisera needle-work of divers colours on both sides." So that in some shape or other the use of the needle is very ancient, and no doubt beguiled away the hours of the maids of Juda. The Pagan Greeks esteemed the art of needle-work so highly, that they attributed its invention to their favourite goddess Minerva. Homer constantly introduces his heroines so engaged.

The conventual institutions of the middle ages were admirable schools for the various productions of the needle—embroidery, tapestry, and the rest, Magnificent garments worked by the needle, were presented to Popes Leo III. and IV.; and also beautiful Scripture subjects were worked by the needle to adorn the various chapels in Rome.

The daughters of kings and nobles, although carefully educated in polite literature and various accomplishments, were not considered suitable for wives unless they were good needle women.

The garments worn by Edward the Confessor, on

state occasions, were embroidered by his queen Elgitha. There is now in the possession of the Fishmongers Company in London, a splendid state pall, representing Christ delivering the keys to Peter, the production of this time. Coming down to the time of Mary, Queen of Scotland, we find that she was usually engaged in sewing when she sat in council with her ministers of state; and during her captivity at Hardwick Hall, amused her hours with works of tapestry in order to defend herself from the chill and damp of her prison walls. This injured queen has left behind her needle work of great value and beauty.

In Queen Anne's time, the needle seems to have fallen into disuse; we find in "*The Spectator*" commenting on the idleness of the ladies of that time, proposes certain rules to amend it;—

1st. That no maid shall be allowed to receive the addresses of her first lover, but in a suit of her own embroidery.

2nd. That before every fresh domestic she shall appear in a fresh stomacher.

3rd. That no one be married till she have all domestic linen ready, and a mantle for the baby ready stitched.

If similar rules were adopted by society *now*, we should have less slavery at the milliner's shops—in other words, less fancy crocheting, more of the useful and less useless labour in the houses of the middle and higher classes.

"Look at my daughter's work," we have often heard fond mothers exclaim, on the return of their daughter from school. It is very pretty, but can she make her own clothes, can she bake and cook, &c.? If not it is worse than pretty time misspent.

Guicardini ascribes the invention of tapestry to the Flemings; though it is believed that it was practised by the Saracens long before its introduction into Europe. The first manufactories were at Brussels, Antwerp, Lisle, and Valenciennes; the art was introduced into France in the reign of Francis I., who established a manufactory at Fontainebleau; and into England in

the reign of James I. Tapestry hangings were, however, known many years earlier, and had reached great artistic perfection.

Berlin patterns, and work properly so called, were not known till 1804, when the first pattern, on checked paper, was published by a print-seller in Berlin. In 1810, Madame Wittich, the wife of a print-seller, in that city, and herself a celebrated workwoman, urged her husband to engage in that branch of his business with more spirit. They are worked on canvass, either worsted or silk, with wool manufactured at Gotha, and dyed at Berlin. They were introduced into England in 1831. Wilks, of Regent Street, imported a large quantity of patterns from Berlin; and from there, and Paris, the best materials of silk, wool, &c.; and, moreover, engaged the best French workers to accompany him to this country. To this individual we owe an art, which gives amusement to so many of our ladies; and is sometimes the horror of their husbands and brothers.

The needle has handed down to us many an historical picture, and illustrated the life of many a saint; and no one in ancient times, surpassed the celebrated Miss Linwood, whose collection of pictures most of us have seen, and who worked "The Judgment of Cain," after the age of seventy.

Our beloved Queen is said to be a proficient in needle work. The needle is alike found to be the consoler of cares in the palace and the cottage. It is the source of enjoyment to thousands, and sustenance to tens of thousands; and is too often the companion of squalid misery—for instance the poor shirt makers, so well described by Hood, in his "Song of the Shirt," who get 4 $\frac{3}{4}$ d. for a long day's labour; and of those wretched creatures who toil for the "Jew slop sellers." There are also the poor milliners and dress makers, who are shut out from the genial breeze and sunshine, and almost the light of heaven, often for seven long days in a week, for 12, 14, and 16 aye, and 18 hours a day, in the season, up the *three pair back*. Martyrs indeed they are to pitiless poverty and miserable pride:—the poor creatures.

"We must have our dresses, and bonnets, and mantles, and caps, &c., by nine o'clock in the morning, for the review and ball to morrow evening," said several aristocratic ladies, as they bounced from a splendid equipage into a milliner's shop in Regent St., the other day; and it is now three o'clock."

"I doubt please your ladyship," said the milliner, "that we shall not be able to get all of them done, as we only received your ladyship's commands yesterday" addressing the eldest of them.

"Oh! lor!" exclaimed the quorum at once.

"But indeed you must;" said the matron of the group, or I shall *withdraw my patronage*; for I cannot bear to see my daughters in the ball dresses you sent home last week; therefore they must be done"

"I shall, ladies, do my utmost to ensure them in time," said the shopkeeper.

With a sad heart, even the milliner proceeds up stairs to the poor over-worked in the *three pair back*, for she knows already they can scarcely hold up; but rents are so high, taxes so great, and the patronage of Lady G. of such importance, that the cruel order must be obeyed, and money must be made while the sun shines.

"Girls," said she, "Lady G.'s dresses and those for the young ladies must be done to night, and the carriage dresses home by nine o'clock in the morning, for the review in the Park: so you must again work all night."

The poor pale-faced slaves: one sighs, tears start into the eyes of another, a third murmurs at the *ukase*, a fourth is awakened by the order from a stupor induced by previous nights and days of fatigue.

How the needle could tell of that sad heavy night's work, as it passed through the splendid materials which were to adorn the persons of the ladies at that gay festive and fashionable ball a few hours later.

But what matters those sighs, and tears, and murmurings; they would not be seen there; no, but they were seen somewhere else, and heard also, as truly as the sighs and groans of the negro slaves.

CHAPTER III.

Now our little wonder-worker must say a little about his own origin.

Many of our most useful arts have been introduced into England by refugees from the continent. The oldest families of needle makers are the Blundells, Rawlins,* Hewits, Alcocks, and Chatterleys. It appears probable they were brought into this part by the Throgmorton family, who protected them in time of persecution. The Connells of Redditch are from Limerick, where the family formerly carried on an extensive needle trade. There is also a family of the name of Shrimpton from Long Crendon, in the neighbourhood of Redditch; but at what time needles were first made in Alcester, and Studley, in Warwickshire, we have no information, neither is there any name given as the inventor or introducer of needle making into that locality. It is therefore probable that needles have been made in Warwickshire at a very remote period. Normandy or Germany being the most likely countries in which the invention had its rise, and that the introduction of the craft into London was merely in consequence of some improvements in this useful branch of industry.

DESCRIPTION OF NEEDLE MAKING IN LONDON.

FROM AN OLD VOLUME.

“Previous to the year 1563, wire, for making needles, was imported from Spain and Germany; but from that time the needle makers made their own wire. Having drawn the wire to its proper fineness, the needle maker proceeded to cut it into pieces the length of the needles required to be made, which he flattened at one end on an anvil, in order to form the head and the eye; then the wires are placed on a sheet of iron over the fire to soften, after which the wire is pierced

* Wm. the last of the Rawlins in this neighbourhood, died a few years ago.

at the extreme end of the flat part on the anvil, a square punch is hammered half through, which process is termed first eyeing. The needles are then laid on a leaden block, to bring out with another punch the small bit of steel remaining in the eye; the roughness caused by punching is removed from the surface of the eye by cutting a groove in the flat part of the wire on each side of the needle; the head is next filed round, and the point formed by the same process. The needles are then laid on an iron pan and placed on a charcoal fire until they become red hot, when they are thrown into a basin of cold water to harden. They are next placed on an iron shovel and held over the fire, which serves to temper them and take off their brittleness. The process of hardening crooks them, so that they have to undergo the operation of straightning, which is done by placing each needle on a small anvil, and a few gentle taps makes it perfectly straight. The next process is scouring. To do this they take 12,000 needles and range them in small heaps against each other on a piece of new buckram, sprinkled with emery dust and oil of olives, and make up in a roll well bound at each end. This roll was originally placed under the feet of the workmen, and scoured by moving the feet backward and forward as he sat at work at the other processes; but now the roll is placed on the polishing table and over it a thick plank loaded with stones, which men work backward and forward for two whole days, by which means they become bright. They are then taken out and washed with hot water and soap, and afterwards placed in a round box filled with bran, moistened a little, which is then suspended in the air by a cord, and kept stirred until the bran and the needles are both dry. The needles are afterwards sorted, the points are all turned one way, and polished with an emery stone turned with a wheel. Nothing now remains to be done but to count them, five at a time, and make them up in packets of twenty-five needles in a paper for sale." Needles were begun and finished by the makers at their own homes, unassisted by mill power in those days; in London, at Long Cren-

don in Buckinghamshire ; at Alcester, and Studley, in Warwickshire ; and there were but few needle makers who were mostly very poor, although they sold their needles for a high price ; and needles were very scarce in some parts of England at this time. Humourous tales are told of where the loss of the only needle in the house has thrown the whole village into dismay. Such an event is not at all likely to trouble us at the present time ; we can obtain them in abundance, and hence we find that they are lost, broken and destroyed by dozens, without a moment's consideration, because they are cheap ; and every improvement for abridging labour in the needle making, has caused more orders and employed a greater quantity of people, who are better off, in every respect, than they were formerly. English needles are now preferred in foreign countries ; and the German manufacturers, especially imitate our labels to meet the markets. Some very extensive factories in Prussia, never label with their own names, but print on their own premises labels of English firms as they are ordered.

CHAPTER IV.

About the year 1700, a mill worked by horses, was established at Studley for pointing and scouring needles ; soon after, a mill of this kind was set up at Sambourne, a village near Studley, superintended by a family named Biddell, who taught Richard Hemming the art of needle making, the founder of the celebrated firm of Hemming and Sons, of Redditch. The horse mills were in the course of time superseded by John Alcock, of Alcester, who fitted up parts of the old flour mills on the River Arrow for pointing and scouring needles. About 1750, some needle makers in this locality began to aspire to the dignity of Manufacturers. Mackenzie appears to have been the first to establish a needle manufactory in Whitechapel, London ; but it cannot be determined whether any needles were made throughout at his establishment. It is quite certain that Mackenzie was supplied with needles in an unfinished state by Charles Rawlins, of Alcester, which were

finished in Whitechapel. Mackenzie introduced some improvements in the finishing of his needles, which brought them into request; and Mackenzie's Whitechapel needles obtained a pre-eminence over all other makes. The fame of those needles still lingers in the mind of the old lady, when she hears the well known cry of Whitechapel Needles, twenty-five for a penny.

Mackenzie, although famed, became embarrassed, and was about to join the Connells of Limerick, who were needle makers in that City. Mackenzie was overtaken at Liverpool by his creditor, Chas. Rawlins, to whom he gave up his tools in payment of his debt. This was a disappointment to the Connells, and they removed to Redditch, in the year 1780; when needles ceased to be made in Ireland, Mackenzie returned to London, and was supplied with needles by John Shrimpton, of Long Crendon; but the business of Mackenzie gradually declined—he could not compete with the Alcester needle makers. One of the tools obtained by Rawlins was called by Mackenzie his money-spinner, which was used in burnishing the eyes of the needles. It gave the eye a bright appearance, after which they were called silver eyed. The information Rawlins received from Mackenzie, enabled him to make superior needles to any other maker; he also silvered the eyes for other manufacturers, for which he received one shilling per thousand, or about ten shillings per hour. A person named Jas. Waterhouse, took Rawlins 6,000 needles to silver one dark night; he then placed a ladder to the window where Rawlins worked, and discovered the process of silvering the eyes, which he made public.

CHAPTER V.

The Alcester needle makers, jealous of the fame of the London needles, labelled their common qualities with Whitechapel labels; by this means, and the greater facilities for making needles in Warwickshire, needles soon ceased to be made in London. The Alcester manufacturers began also to make sail and packing needles, a branch of the trade almost exclusively

confined to Long Crendon. The Long Crendon needle makers not being progressive, they looked with contempt on what they called new fangled ways of making needles, and continued to make them in the "good old way," handed down to them through a long line of Greenings and Shrimptons, from old Christopher Greening; and, as a matter of course, their trade declined, and the prosperous state of needle making in Warwickshire attracted the most energetic needle makers from all parts, bringing with them useful contrivances connected with their art, and thus this manufacture became concentrated on the borders of the counties of Warwick and Worcester. The first Long Crendon needle makers who came into this locality settled at Alcester, and were employed by William Mascoul, a manufacturer in that town. About the year 1785, Michael Morrall who had been taught the art by his maternal uncle, Charles Rawlins, removed from Alcester to Washford Mill, Studley, and entered into partnership with his brother Abel, and John Archer, their brother in law.

In 1790, two and a half millions of needles were made per week in this district one million of which were made by Morrall, Archer, and Morrall of Washford Mill, Studley. Many improvements were made by this firm in the art of needle making. In 1793, Michael Morrall made some experiments in drilling the eyes, which induced the firm to engage Charles Davis, a watchmaker of Alcester, to drill needles for them. They were introduced into the market for sale, but were declined in consequence of the price being so much higher than had been paid for them before the eyes were drilled. Drilling was, therefore, discontinued, the firm having sustained a considerable loss by the experiment. Many attempts were made by this firm to induce the needle pointers to use respirators to prevent the dust entering their lungs, but the workmen refused to use them; the pointers' impression evidently being, if he made use of any contrivance which would lengthen his life, it would at the same time tend to reduce the amount of wages he could earn.

Three rewards have been given by the Society of Arts, for the invention of machinery, as a substitute for manual labour in pointing needles—one to Thomas Wood of Berkhamstead, in 1811; one to George Prior of Otley, in 1813, and one to Thos. Roberts of Dumfries, in 1815.

Needle pointing may be thus described:—we will suppose the workman to be seated in front of a grindstone revolving at a velocity of from two to three thousand times per minute, he takes up from fifty to a hundred wires, spreads them out so that they lie singly (but close together,) with their ends perfectly even, and then introduces them between the palms of his hands, which are brought together so that the fingers on one side point towards the wrist on the other, the ends of the wires are then pressed upon the grindstone, and by a slight motion of the hands to and fro, each wire is made to turn on its axis at the same time, and thus they are all pointed perfectly and beautifully at once, and with incredible rapidity. But whilst we are looking on, admiring the brilliancy of the scintillations produced by the friction, lighting up the squalid face of the operative, and thinking it forms a scene worthy of a Rembrandt, we are crossed by a reflection upon the deadly character of the work,—those very sparks which give a character to the scene, carry death in their path, for fatal experience has told us that where the workmen are daily exposed to the influence of the dust produced by the grindstones, six or seven years will be sufficient to terminate their existence.

It is horrible to think that any portion of our fellow creatures should be subject to such an ordeal, but from the high rate of remuneration offered, and the fact that there are many who, from loss of character, are not enabled to obtain employment at other branches of the business, no difficulty has hitherto been found in obtaining a sufficient number of operatives to perform the work.

CHAPTER VI.

About 1790, John Farr, a retired button maker,

commenced making sail and packing needles at Alcester, by means of dies fixed in a stamp, after the manner of making buttons. These kinds of needles were also cast in moulds by William Connor, at Broomsgrove. At this time, also, James Cook commenced making bodkins by stamps in Studley. This may be said to be the introduction of the stamp for needle making: it however made but little progress and the needle makers had no idea of using the stamp for the smaller kinds of needles untill about the year 1800, when a Birmingham factor, who happened to be on business at Washford Mill, expressed his surprise that stamps and presses were not used in the needle making. The idea thus thrown out was immediately acted upon, and a press was invented and introduced in the above mill, and the attempt made to form 100 needles at a time; but they could not succeed in making more than 35. This process was very complicated, and was discontinued in consequence of the disappearance of Charles Davis, the person who worked the machine. He was found some time afterwards in Birmingham, making needles by stamp and press, and returned to Alcester and made needles for George Pardowe, of Coughton.

The firm of Morrall, Archer and Morrall, received a large Russian order, and gave a bond to have it ready at a certain time, but the slow process of filing needles prevented them from having the order executed soon enough: the bond was consequently forfeited, and the order countermanded. All orders for needles from the same source have invariably, since then, been sent to Germany instead of England. This firm sustained considerable losses through Napoleon over-running Europe. Their trade had diminished because of the war. The sword makers in Birmingham were fully employed at this time, but the needle makers were without work. This firm (the largest in the neighbourhood) stopped; they were able to pay all demands, but could not keep on the business. Two firms at Redditch, began by Richard Hemming and William Bartlett, took most of the orders for needles; and these two firms have been at the head of the trade in Redditch

In 1811, Abel and Michael Morrall, sons of the before-named M. Morrall, commenced stamping needles, and introduced the first eye into the needles by means of the stamp. What is meant by the first eye is an indenture half through the head of the needle. Abel Morrall also contrived a punch to make the eye of two needles at each pull of the press; and several others began to use the stamp and the press; but so strong is prejudice, however, that long after this plan had been introduced, it was found necessary to remove the regularity of appearance which needles so made presented, to make them in fact, appear like hand-made needles in order to sell them.

Needle making was introduced in Hathersage, in 1810, by Samuel Cocker, who had learned the art at Bank Top, in Manchester, and also worked at Chester for William Evans, a needle manufacturer in that City. Cocker had learned the old system of needle making; he therefore, in 1812, engaged a person who had learned needle making from the Morralls at Washford Mills, named Robert Cook, to make needles by machinery. The workpeople of course came from the same part as R. Cook. so that they were continually leaving Hathersage, and returned to their old homes in Warwickshire.

R. Cook continued in Cocker's employment for nine years. In 1821 he commenced for himself, and the two firms carried on in Hathersage; but of late years the trade has gradually declined.

In 1823, Abel Morrall invented a small machine for filing 100 needles at a time. This was kept private, and answered well. It was communicated to James Pardowe, of Studley, by William Woodall, who worked (previously to his engagement with James Pardowe) for Abel Morrall.

James Pardowe was the first manufacturer who introduced steam power into his mill for pointing and scouring needles, but water power is generally used when it can be had.

The process of gilding the eyes of needles, was in-

troduced at a manufactory in Exeter Row, Birmingham, by Scambler Brothers, assisted by two of Charles Rawlins's sons; the idea was taken from the gilt button makers. Scambler obtained a patent for this process, but the other makers set it aside through the specification being wrongly laid for an improvement, instead of an ornament, to the needles. This process is now only used for common qualities for exportation and labelled, "Whitechapel Needles."

The following sad story of smart trading may cause uncomfortable feelings in some quarters when brought to recollection:—Do we not know of certain purchases, made by certain simple Africans: the purchase money on our side being needles,— "Whitechapel Sharps," duly gilded at the head—which were found after the departure of the traders, to be without eyes! It is a sad story. The Redditch needle makers who prepare gilt "Whitechapel Sharps" for the African market, say, that they don't believe it; that the needles were of a coarse and ill-finished kind, but they were never blind, yet the testimony is so strong, and the effects of the cheat were so serious in damaging our commercial character among the savages, that we fear there can have been no mistake. If we laugh at such stories it is with a weeping heart, for tricks like these done in any corner where new races are found, are a grave misfortune to the whole human race.

We know that about thirty years ago, one firm sent out needles without any filing, so as to render them almost useless.

CHAPTER VII.

Abel Morrall had for a considerable time entertained the idea that needles would pass through the work with greater ease, if made without the groove. He made a small assortment of them, which were introduced into London by Edward Morrall, in 1825. These needles were approved of; but the difficulty of making them prevented A. Morrall from proceeding with the grooveless needles at that time. A few grooveless

facturer of Studley; but they did not take with the public.

The drilled-eyed needles were soon after successfully brought out by William Green, of Astwood, who had seen the drills formerly used at Washford Mill. He was supplied with needles by Abel Morrall, and sold them to the tailors and other users of needles, who soon began to ask for the drill-eyed needles at the needle shops; and thus they came into general use. Green drilled the square eyed needles with great care. The reader should bear in mind that the eyes are not made with a drill; the punch makes the eye, and the intention of drilling is to clear the eye, and prevent the cutting of the thread. Every mechanic knows that the eye will be rough after the drill, and much trouble is taken to clear the roughness out of the eye by some manufacturers, and yet after all their trouble needles would be less liable to cut the thread if never drilled at all. This may perhaps appear strange to the reader; but let him examine a needle when magnified, and he will see the sharp edges caused by drilling. It also appears strange that needles were made with square eyes, yet such is the fact; and long after drilling came into use, the needle makers continued to make the eyes with square punches, and then drill them, Abel Morrall was the first to use a round punch in making the eye of the needle.

Needles are now drilled by children, in a careless manner, as they have to drill a certain quantity per day; and, of course, they are more anxious about the green fields and shady lanes than they are in drilling needles—"warranted to carry a large thread and not to cut in the eye or drag at the head."

The method usually adopted for this purpose is what is technically called "counter-sinking." It amounts to this: a girl, seated in front of the small lathe in which a drill is kept running at a high speed, takes between the forefinger and thumb of her left hand from thirty to forty needles, with the heads downwards, then by dexterously passing the edge of a knife along the eyes, causes them all to lie one way;

the eyes are now touched one at a time upon the drill, by which the edges of the aperture are removed—then by a slight movement of the finger all the needles are turned to present the other sides of the eyes, which are treated in a similar manner and they are then left as finished.

Our reader will bear in mind that the object to be attained is a perfectly smooth eye, one that shall be free from any burr, in order that the thread shall not be injured; but let the drill employed be as sharp and perfect as it may, it will drive up a burr before it, which, in this case, will be left in the *centre of the* eye, the worst position it could occupy.

About this time an improvement was introduced by Abner Mellen, of Redditch, which consisted of a peculiar mode of dressing buffs used in polishing needles. This appears to be the only improvement made in the art at Redditch, which is certainly curious when we consider its fame as a needle making place. The mechanical part of the trade has always been done out of Redditch. Needles were made there by hand, but none were made by machinery until about the year 1828.

The hand-workers prices were much reduced by the machines. Each contended that his method was the best; and by the year 1830, some of the “stampers” as the machine-men were called, had removed to Redditch. In the autumn of this year the hand-workers came to the determination of breaking all the machines in Redditch, which they carried into effect, and were proceeding to Studley, when their leader was taken into custody by Shailer, then constable of Studley. Eight men were lodged in prison at Worcester, and were sentenced by the Judge at the assizes to terms varying from six to eighteen months’ imprisonment. The hand-workers saw it was hopeless to attempt to stop the machines, so they came to the wise conclusion to give up their old system, and learn to make needles by machinery; and the two leading firms in Redditch, W. Hemming & Sons, and W. Bartleet & Sons, prevailed upon the master stampers to teach them, & as far as possible, find them employment. The hand-workers

were well satisfied with the change: and thus came to a conclusion the long-disputed question between the old and new systems of needle making. Till within a few years one man in the district made needles by hand. This individual, William Bradbury, of Studley, entered into an arrangement with a London house before the introduction of machines, to make needles for them as long as he should be able to work, and to be kept by them in constant employment at a stated price; and the old firm found their old workman his work and wages up to the time of his death, which happened suddenly in 1853.

Before the introduction of, or rather before the making of needles by machinery generally, in 1824, only five millions were made in this district per week, while in 1847, fifty millions were made in the same time.

Many of the hand-workers who were too old to learn the new way of making needles; were now employed in soft straightening, a process common to both ways of making them; but this was not to last long, for Abel Morrall invented a machine for straightening, which would do more work in one hour than could be done by hand in twelve. The invention was kept private, and it is now superseded, as the process of soft straightening is dispensed with.

CHAPTER VIII.

Abel Morrall had been for several years endeavouring to make oval-eyed needles; the great difficulty being to prevent the eye from cutting the thread. At length he invented a machine for burnishing the eyes, and took out a patent for the same in 1839. He then entered into an engagement with W. Bartleet & Sons, to make oval-eyed needles for them, and burnish them with his patent machine. The other needle makers seeing it to be a great improvement, entered into a league to disprove his right to the patent. It was the wish of the manufacturers, except W. Hemming, to infringe on the patent; but he protested against this mode of action, informing them

that Abel Morrall, had as great a right to the patent as he had to any other property, until they proved to the satisfaction of a court of law that he had no legal claim to it; and he, W. Hemming, would not infringe on any man's rights, but would withdraw from the league immediately if any one infringed upon it. He wished them rather to prove that A. Morrall had no right to the patent. The case was accordingly brought to trial—Hemming and others, *v.* the Queen—and was decided in favour of the patentees. The needle makers then endeavoured to improve on the patent, but did not succeed. They then obtained one for certain parts disclaimed before the trial of Abel Morrall's patent, which they termed Helix-eyed needles.

During the pending of this question, trade was very bad in this district, and Abel Morrall had an offer from France to go to that country, and superintend some English needle makers already established there. The French government offered to increase the duty on English needles, which has since been done; but A. Morrall preferred staying in England, and making an assortment of grooveless needles. He sent his nephew, Michael T. Morrall, in 1841, to introduce them in Lancashire, Yorkshire, and other adjoining counties. These needles were approved of in the north of England, and in the spring of 1843, they were introduced into London, but M. T. Morrall could not induce the shopkeepers to try the needles, so he gave a quantity to the men employed in the large tailors' shops at the "West End," which soon brought them into demand in the trimming shops of London; from which time Abel Morrall has received the general support of the tailors in all parts of the United Kingdom.

According to the specification of Abel Morrall's patent machine, for Superseding Drilling his needles pass through a process which pierces an eye nearly two sizes larger than any other needle, and is constructed on such a principle as to remove every minute angle, burr, and rough edge, and to clean smoothly away

any other cutting particle that may have been left in the eye of the needle, which no other operation has hitherto been able to effect, thereby rendering it impossible to cut the thread. Morrall's patent method of clearing the eye may be described as follows :— a piece of fine steel wire is slightly roughened upon its surface throughout its length, which after being hardened and tempered, may be likened to a fine file ; this wire is run through the eyes of about a hundred needles, and its ends being made fast, the needles are then put into a violent motion. The result is obvious. The metal inside the eyes is gradually worn away, until at the end of about an hour and a half it has become as smooth as a piece of glass ; sharp edges, burrs, roughness of all kinds being entirely removed from its vicinity ; and when (the needles being nearly completed) this operation is repeated, it leaves the inside of the eye as bright as the exterior portion of the needle, adding one more example to the many already existing of the best results being obtained by the simplest means.

CHAPTER IX.

In 1840, Joseph Turner, a needle manufacturer, of Redditch, revived the practice of hardening needles in oil instead of water, as the oil did not crook them so much, and therefore the same labour in straightening them was not required. Hardening is effected by making the needles red hot in an oven, and suddenly throwing them into a tub of cold water. This sudden cooling of the steel makes it as brittle as a piece of glass. The needles will now break almost with a touch, indeed, in this condition, they would be as useless as in the soft state ; but by raising their temperature to about 600 degrees, and by allowing them to cool gradually, the required degree of elasticity is given. The needles now require considerable force to break them, and if bent should spring into a perfectly straight line. The hardening and tempering processes are very defective at the present time, and there is ample scope for improvement in this department in the construction of an apparatus for ascertaining the heat

of the fire instead of the hardener being left to his own judgement. The crooked needles are mostly straightened by women at their own houses. The straighteners assembled at Redditch, and passed resolutions to put down the process of hardening in oil. Joseph Turner was several times mobbed at Redditch, and at length removed to Stratford-on-Avon, but finding that town unsuitable for needle making, he returned to Redditch, when the public opinion had cooled down. All the commoner qualities of needles are now hardened in oil, but it is found not to answer for better goods. The straightening of needles is a very tedious process, and often very imperfectly performed, the marks of the hammer being frequently left on them.

It is a singular fact that, although so many needles are hardened in oil, yet the straighteners all find constant employment.

About this time Dr. Holland introduced the fan-blower in connexion with the grindstone, by the proper application of which the dust is effectually removed from the workshop to the exterior of the building. Dr. Holland's fans soon came into use in Sheffield and Hathersage; but no attempt was made to introduce them in the needle district. In 1842, A. Morrall made an improvement in darning needles, by making the eyes oval; by this means they are much easier to thread, and from which they derive their names, *viz.* "Egg-eyed Darners," the eyes are also burnished by the patent process.

In 1844 the operative needle makers formed a trades' union among themselves. In 1846 the needle pointers "struck" for an advance of wages, although they were earning from 2£ to as high as 6£ per week. Only little skill or labour is required in the process of pointing; but in consequence of the needles being ground on a dry stone, the dust is inhaled by the pointer, and settles on his lungs, so that his life is of short duration, seldom exceeding 35 years.

Their wages were mostly spent in intoxicating liquors and other degrading practices, their maxim

being "a short life and a merry one." The pointers were about the most degraded part of the population of the district: only about one in six could write his own name. Benevolent men had often sought to reform this state of things. The Society of Arts offered a premium for the invention of an apparatus which should prevent the entrance of the dust into the lungs of the dry grinder. In 1821, J. H. Abraham of Sheffield, sent to the society a model of a mouth guard, which was approved of and found to answer when used by the needle pointers; but they refused to use it for no other reason than the fear that it would tend to reduce their wages. The pointers continued to act thus till the time of the before-mentioned strike in 1846. The manufacturers refused to give the advance, and the money of the pointers was at length all gone, so that the greatest distress prevailed amongst them.

The masters now called a meeting to arrange the prices to be paid to the pointers; for some sorts of needles the prices were advanced, and for others reduced. It was also arranged that Abel Morrall should go to Sheffield, to inspect the fans used by the grinders, and bring back a report to the needle manufacturers, which was done, and the fans introduced into some of the mills that were under the control of manufacturers. This strike continued nearly twelve months, and the pointing being one of the first processes, before the strike was at an end almost all the needle makers were out of work, and the manufacturers' stocks were sold off.

The pointers had not only to contend with the manufacturers, but the public opinion was against them; the press also took up the subject, and the pointers at last beginning to doubt the goodness of their cause wished to return to their work again on the terms proposed by the manufacturers. Although the pointers began to use the fans with great reluctance, they soon came to approve of the new system; as before the introduction of these fans the workmen were enveloped in dust, which prevented them having glass windows in their part of the mill—the light being ad-

mitted by holes with wooden lids over them. The fans are constructed with a kind of funnel placed immediately behind the grindstone, which has a metal tube extending to a box at the bottom of the stone, in which the fan revolves, thereby producing a draught of air down the funnel which takes off the particles of dust, leaving none to fly about the room.

It may be said that this arrangement has been generally employed about 12 or 14 years, and already a marked change is evident in the needle pointers as a body, they are no longer that dissipated class they were, although much yet remains for improvement.

Some years previous to the pointers' strike, a pointing machine was invented by one of the Cockers, a wire manufacturer of Hathersage. The machine could not compete with the pointers in speed, therefore it was not used. At the time of the strike it was sent to the needle manufacturers at Redditch, but was purchased by the pointers and broken.

A case of needles was shown by Cocker & Son, of Hathersage, and one by Cocker & Son, of Sheffield, at the Great Exhibition of '51; but we are informed that no needles are made in Sheffield at the present time, and R. Cook, is the only needle manufacturer at Hathersage.

CHAPTER X.

The question has often been asked in magazines, why are needles made in Redditch, when there is no river nor any apparent cause likely to attract needle making to that place? This question may be answered by stating, that of late years public writers have treated needle making too much as a Redditch question, taking it for granted that the art of needle making took its rise in that place; but it is not more than 40 or 50 years since Redditch was only a third rate needle making village; and in 1700 a greater quantity of needles were made by one firm in Studley, than were produced by all the needle makers at Redditch.

In 1700, Studley was the principal place for needle making in that locality, and the trade is supposed to

have taken its rise at Studley : a very pretty village and parish, in the County of Warwick ; it is 15 miles South of Birmingham, 4 North of Alcester, and only 3 miles from Redditch. Although there is no trace of any river at Redditch, there is a small rapid stream, called the river Arrow, which takes its rise at the Lickey Hills, near Broomsgrove ; and when it enters Warwickshire it is a good sized and useful stream. It passes through Studley and Alcester ; and turns a goodly number of old mills used in grinding and scouring needles. Emery stones are found in this stream, which are ground to powder in the mills, and used with oil and soft soap in scouring needles.

These are all the processes in needle making requiring mill power. The wire and other necessities in the art can easily be procured in Birmingham ; and the Birmingham factors send off large quantities of needles, with other goods to all parts of the world. There may be other reasons why needles are made there ; as all attempts to make it into a staple trade of any other district, have so far been unsuccessful. It is very difficult to establish a needle manufactory out of the needle district. As a general rule only the worst workmen can be obtained, as the others will not leave their own district, those who do, only remain a short time ; so that the manufacturer cannot depend upon his workmen stopping with him. The people of other districts do not easily learn the art—those who have tried to establish this branch of manufacture in Birmingham, say, that the children do not learn so soon to be useful in a needle manufactory as the natives of Redditch or Studley ; therefore if the manufacturer succeeds in establishing himself no other manufacturer will follow him, and in all probability he will not be able to make the best goods for a considerable time. The workmen who went from the needle district to France, returned long before the expiration of the time for which they were engaged. There is a needle manufactory at Chesterfield, established by Henry Essex, of Studley, who is now endeavouring to introduce needle making into the state of New York.

An attempt was made about ten years ago by a London house, to establish a needle manufactory at Long Crendon; but it has recently removed to Redditch. Needles have been made at Long Crendon ever since the time of Cromwell; but the needles made in this village were principally sail, packing, and surgeons' needles, also netting needles and knitting pins. This trade was carried on in private houses, in the same way in which needles were generally made in the Seventeenth Century. There is no river at Long Crendon, and it is by no means well situated for needle making. An attempt was once made in this village to scour their needles by wind mills, but it did not answer. Fish hooks were also made here, and in the neighbourhood of Redditch, but it is quite a separate trade from needle making; but they are often sold by needle manufacturers. Steel crochet hooks, and all kinds of needles for fancy work are made in this locality, by the workmen who came from Long Crendon, and they supply the manufacturers with them. These goods are made by hand in private houses. Abel Morrall was the first to make crochet hooks by stamp and press, for which a London house unfairly obtained a patent.

CHAPTER XI.

Most of the needle makers have agents in London, and many of the London houses have their own names put on the needle labels; but whatever be the names or addresses, it is nearly certain the needles were made in the neighbourhood of Redditch. The price of needles varies from ninepence per thousand and upwards. The common qualities are sold to Hawkers, who impose upon the public by representing themselves to be needle makers out of work. No respectable manufacturer will put his name on needles sold by this class, and the names on such labels are therefore fictitious. The only way to procure good needles is to go to some well known shop, and the best needles should not be charged more than one shilling for a

hundred. There are in most towns shops noted for needles, often kept by a venerable old lady, and these are the best places for good needles, thimbles, and other odds and ends; those who encourage hawkers will realise in their own experience, Mrs. Harris' soliloquy while threading her needle:—

Oh! dear a me, what needles! well really I must say
All things are sadly altered, for the worse too, since my day;
The pins have neither heads nor points, the needles have
no eyes,

And there is ne'er a pair of scissors of the good old fashioned size.

The very bodkins now are made in fine new fangled ways;
And the good old British thimble is a dream of other days;
I'm sure I often ponder with a kind of awful dread,
On those bold spinning jennies that go off on their own head;

These power-looms and odd machines, those whizzing things
with wheels,

That evermore keep moving, besides one really feels
So superannuated like, and laid upon the shelf,

When one sees a worsted stocking get up and knit itself!

MRS. NORTON.

A stranger about to visit this district for the purpose of seeing needles made, will do best to go free of engagements with any manufacturer, as the trade is open to inspection throughout the needle making villages. The visitor should proceed by rail to Redditch, thence to Alcester, and return to Redditch along the river side. In addition to the old mills and the beautiful scenery, there are antiquated mansions, ivy-clad churches, studded here and there, which are sure to interest and gratify the lover of the picturesque. Studley Mill belongs to the well known firm of Abel Morrall, which was the first to bring out the celebrated grooveless and egg-eyed needles. Near to this mill is the old Priory, with its stately avenue of elms and the sociable rooks; so often found near ancient mansions. This Priory was founded by Lord Peter de Studley, in the reign of Henry II. The old Manor House is also near to it. Farther on is Washford

Mill, formerly the manufactory of the celebrated John and Matthew Mills, who removed to Beoley Mill, and were succeeded by Morrall, Archer, and Morrall, now used by Millward & Sons, of Redditch, for pointing and scouring their needles. And near to this mill are Abel Morrall's needle works, and the house of Wm. Bradbury, the last individual engaged in needle making by hand. Then pass over the old forge bridge, from which a view of the river is very beautiful; near to it is Ipsley Mill, and on that eminence is the Parish Church and Ipsley Court, the Birth place of Walter Savage Landor. After leaving here, a pleasant walk of a mile brings us to Redditch, which is delightfully situated on a hill on the western borders of Worcestershire. The manufacture of needles and fish-hooks is carried on here to a great extent. Opinion seems prevalent in the mind of the public, that needle making is exclusively confined to Redditch—such is not the case—the manufacture of needles is by no means confined to that place, but, like the Potteries of Staffordshire, it is the staple trade of a district, of which Redditch may be called the capital and Studley the centre. And there is scarcely a village within ten miles that does not contribute a share of these useful articles. The trade can be traced to and fro between Alcester and Studley. The oldest firm in Redditch is that of H. Millward & Sons; it dates from the year 1730, but at first their needles were mostly made at Studley. The next oldest firm in Redditch are the Holyoakes & Gould. The Chillingworths carried on an extensive needle trade at the old forge mill, near Redditch. At Studley, in addition to those otherwise mentioned, were the elder Charles Rawlins, Humphrey Hays, and William Hewitt. At Alcester, William Archer, John and Joseph Scriven, and others.

CHAPTER XII.

Thus far have we given a concise history of the progress of needle making up to the year 1851. We will now say a little about the machinery of Abel Morrall.

On its becoming known in the needle district that A. Morrall intended sending his needle machinery to the Exhibition, the needle makers remonstrated strongly against it, fearing, as they said, that foreigners would take the trade away from the country; but when they found him determined they offered him a large sum of money to refrain. This he declined, and still persisted in exhibiting his machinery. Threats were then held out that his property would be destroyed. Many letters passed between Abel Morrall and the Executive Committee of the Great Exhibition; the Committee being as anxious that needle making should be shewn, as the needle makers were that it should not; yet up to the day before the opening of the Exhibition, A. Morrall was undecided whether to work his machinery or not, however, at last he concluded to work it; and from the opening to the close, needle making attracted a large share of public attention. A. Morrall exhibited needle making as done by hand, in addition to the machinery, 200,000 needles were given away to visitors in the month of May. Many of the nobility examined the machinery—the Duke of Wellington and the Duchess of Gloucester were frequent visitors,—a single needle was made for the Prince of Wales at his own special request, which he took away. On the 16th. June, the Queen, Prince Albert, and suite inspected the machinery. The Queen examined each process, and was pleased not only to express her satisfaction, but to accept from the inventor specimens of needles in their different stages of manufacture. The Queen asked many questions respecting the progress of this useful art in England—as to the number of people employed before machinery was introduced—the quantity of needles made per week,—the number of persons now employed, and needles made. The Queen was much pleased to find that the introduction of machinery had caused more employment for the people, and ordered the questions and answers to be entered in a book.

The Duchess of Kent afterwards requested some specimens the same as presented to the Queen.

Needle making was equally attractive to all classes, a great number of the working people of Lancashire, and Yorkshire brought home, at least, one needle made at the Exhibition.

CHAPTER XIII.

Abel Morrall's machinery is thus described in the catalogue :—

“MORRALL, A., Studley Works, Warwickshire, Inventor and Manufacturer of machinery for making needles, viz., a stamp for making the heads of needles; a press, with double punch, for making the eyes of two needles at one time; machinery for filing the burr off needles, caused by the stamping; a drill; and a model of A. Morrall's patent machine, which burnishes the eyes of 12,000 needles at one time, and it is computed that a good workman may carry a hundred thousand needles per day through this stage, whilst in that of eyeing, in which formerly only 400 or 500 per hour could be completed—4,000 per hour are now easily produced. In the filing, 500 an hour was under the old system, a fair amount of work, now, 40,000 in a day of ten hours is the estimated quantity, with the additional advantage of true making.

OFFICIAL DESCRIPTION OF NEEDLE MAKING.

SEE DIAGRAM, PAGE 1.

On the Case,—Class No. 22,—and it was honourably mentioned.

The needle maker commences with the wire, which has been previously prepared for him, in the form of rolls about three feet in diameter—the size of the wire of course depending upon the kind of needles to be made. The workman takes two or three rolls together (in all three or four hundred wires) and with a pair of large shears cuts through the whole. He then continues to cut off the wires, so that each may be long enough for two needles,—*as in the engraving, Page 1*

The wires being cut, have next to be straightened, since each one possesses the same degree of curvature

as the roll from which it is out. This is effected rapidly and perfectly, by placing from ten to fifteen thousand into two iron rings, which stand parallel with each other, and after having made the whole red hot in an oven, rubbing the wires to and fro by a bar of iron, which is partly curved, by which means each wire is made to rotate upon its axis, and thus its highest parts are pressed upon until it is brought to a straight line—the whole operation not lasting more than two or three minutes. The wires are now ready for pointing, bearing in mind that they are each long enough for two needles, we can readily understand that it will be necessary to point both ends, in fact they are cut off this length in a great measure for the convenience of holding them. The grinder then takes a number of these pieces in his hand, and points them, by causing them to rotate on a dry grindstone. They are now washed, then dried over a fire, and placed singly between two dies, which flattens the wire in the middle, and stamps the shapes of the heads of two needles, with indentations for the eyes, and also to mark the place of separation. The wires thus prepared, are taken to a hand press, and by means of a double punch, both the eyes of the twin needles are made at one time. The next process is gone through by children: each child takes two wires in its hand, on which it places about fifty double needles, to facilitate the process of filing, which is done by fastening the wired needles down on a strip of wood, by means of steel springs, worked by a treadle under the foot of the workman, who moves a file over the needles until the projections caused by stamping are removed. They are now turned and the other side is filed, then placed in a kind of hand-vice, and the upper part of the double needles are moved backwards and forwards between the finger and thumb until they are broken into two. The tops of the heads are then filed round, and the roughness removed from the inside of the eye. The needles are next hardened, by being ranged in quantities on iron plates, and placed in a furnace until they are red hot, when they are taken out and emptied

into a copper, containing oil or water, and then tempered by being placed over a slow fire and allowed to cool gradually. The crooked needles are now straightened by a small hammer, one at a time, on an anvil, they are then gathered together, and mixed with oil, soft soap, and emery powder, wrapped in loose canvas, and placed in a kind of mangle worked by mill power, to be scoured. They are often taken out, washed, and redressed. This process takes about a week, and when done the needles are washed in hot water, and dried in saw dust. Winnowing and sorting follow. They are now spread out in a line on a piece of wood, the heads projecting over one side, under which is placed a red hot iron, to soften that part of the needle previous to the eyes being burnished, to prevent them cutting the thread. The points are then set and the needles polished, being held in the hand after the manner of pointing, and rotating on a wheel covered with prepared leather, which is called a "Buff." They are now counted, 5 at a time, and wrapped in their well known papers, labelled, and tied up, 10 packets of 25 needles, in a lot, for sale. About 100 millions of needles are made every week in the needle district, and the best qualities pass through upwards of seventy processes. One pound's worth of steel is said to produce about 70£ worth of needles, and there are at the present time, 100 manufacturers, and 10,000 people dependant on needle making for their daily bread.

"It is somewhat remarkable that the modern needle should have been produced in as primitive a manner as it is possible to imagine, till within the last 40 or 50 years, machinery, properly so called, not having been introduced for its manufacture till within the period named. Still more strange is it that the whole of the improvements made should have been effected by the Morralls, although so many are engaged in the trade." *Professor Crisp's Lecture on needle making.*

CHAPTER XIV.

There were twelve exhibitors of needles, three from Redditch, two from Studley, one from Birmingham,

two from Sheffield, one from Hathersage, one from Long Crendon, and two from Aix-la Chapelle. Eight medals were awarded for cases containing needles, fish-hooks and other things : two exhibitors of fish-hooks from Redditch, one of whom received a medal. One case of needles from Studley honourably mentioned.

The following needle manufacturers' cases are placed in the Exhibition Museum, Kensington Palace, London:—Abel Morrall, Studley, William Bartleet & Son, and G. Boulton & Son, Redditch.

Abel Morrall's machine attracted considerable attention in the Polytechnic Institution, Regent Street, London. The dies and punch used at the Exhibition, together with samples of needles, are now placed in the Museum, at Peel Park, Salford.

With respect to the award of medals for needles, we may safely infer that the juries knew little of their qualities, as each needle was fastened at the bottom of the case, covered over with glass, and not opened by the jury. William Dyce, reporter to the jury of Class 22, said in answer to a letter sent to him by A. Morrall, that the jury of Class 22 did not award him a medal for no other reason than that they considered him a greater exhibitor in class 6 ; and it was through some mistake he had not a medal awarded for his needles, and the juries will do all they can in their report to rectify this mistake, which was afterwards done by the juries, declaring Abel Morrall the inventor of the grooveless needles : and those are the kind of needles for which medals were awarded.

Abel Morrall addressed an appeal to the public, in the *Times* of November 8th., 1851, which, up to the present time, has not been controverted ; and although he had not a medal, A. Morrall is satisfied with the public's decision, and was therefore induced to become an exhibitor at the Dublin Exhibition, and his machinery, being at full work during the whole time of the Exhibition, formed one of the most attractive inventions ; and daily contributed to the pleasure of thousands from all parts.

On its return from Dublin it was shewn at an Ex -

hibition at Oldham, where it was equally attractive. Here it was that the first Egg Eyed sewing needles were sold.

J. Rimmer & Son of Alcester, and H. Millward & Sons, of Redditch, exhibited needles in glass cases, at the United States Exhibition. Honourable mention was made for Rimmer & Sons needles, and a medal was awarded to Millward & Sons, for their gold eyed grooveless needles.

"It has, by this time, become pretty generally felt, that the 'council medals,' 'prize medals,' and 'honourable mentions,' of 1851, are commercially of very little importance, however pleasant they may be to the recipients. We buy our knives of this cutler, and our pianofortes of that maker, and our dinner plates of this potter, not because these manufacturers hold prize medals, but because the articles are good, and worth the money paid for them."—*Chamber's Journal*.

When Abel Morrall returned home from the Exhibition, after inspecting some improvements made in his patent machine, for burnishing the eyes of needles, he began to carry out some ideas he entertained with respect to fluted sail needles, and elastic steel needles for shoemaker's use, which, latter were intended to supersede bristles; and they being at that time very high in price, shoemakers and dealers in bristles were anxious for a substitute. In a short time all that were made by A. Morrall were sold, but shoemakers did not find them so pliable as bristles; and were not disposed to lose time in adapting themselves to the use of needles, so long as they could obtain the more elastic bristle. It is only by training boys to its use, that the needle can be introduced into this business. Formerly bristles were used by sadlers and harness makers, now needles are used almost exclusively.

In 1852, the author suggested to Abel Morrall the desirability of making *Egg Eyed Sewing Needles*, observing that they would be useful to persons of defective sight. During the discussion as to making them, a letter was received from Lady Lifford, asking if he had any sewing needles, with the Egg Eye; as

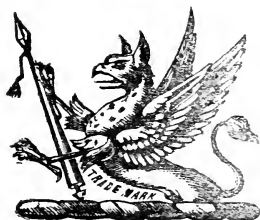
she was much pleased with his egg eyed darners. (No. 1, the Egg eyed darning needle, the eye of which is three sizes larger than the common make No. 2. No. 3, the Egg eyed sewing needle used in the Manchester, Liverpool, and other Schools for the blind.*) In 1853, a few were made and sent out as samples; and many letters of approval were received, including one from the noble Lady just mentioned. By the year 1855, they became generally known, and they have nearly superseded the round eye: a marked progress since the Great Exhibition of 1851. In 1856, James Cottrill, of Studley, took out a patent for machinery, to supersede hand labour in filing needles and other things. One is in constant use in Scotland, filing tubes at the Caledonian Works. In 1857, he also took out a patent for grooving or fluting the sides of sail needles, in the form of a bayonet blade; this however has made but little progress. The same person obtained a third patent in 1861, for an invention which he calls a four sided sail needle; this in our opinion is a decided improvement, and deserves the gratitude and patronage of sail makers. James Cottrill justly describes it thus:—"This needle is superior to all others, in consequence of its having four equal sides instead of three unequal sides; a smaller hole is made in the canvas, allowing the thread to pass with facility, the eye being in a right line with two of its "*Angles*." In making, and mending tarpawling for covering luggage trains, these needles are found very advantageous, as they make smaller holes than the ordinary needles.

Edward Morrall, (a nephew of A. M.) has invented a most useful machine for the needle trade. We are not permitted to describe it until the patent is secured, —it will be shewn at A. Morrall's stall, Class VI B., in the International Exhibition.

Some years ago, A. Morrall began to use a Trade Mark, which soon became noted and was therefore greatly imitated; it no longer distinguished his goods from others. In 1861, he had new labels engraved and entered at Stationers' Hall, adapting the crest of

* See Diagram, page 1

the Morralls as his Trade Mark, namely, a Demi Griffin. We perceive by the Redditch newspaper that a deputation of needle manufacturers is gone to London to give evidence before a Committee of the House of Commons, on the subject of Trade Marks. The manufacturers are now about to use Trade Marks, and it is desirable that there should be a decided difference between each.



CHAPTER XV.

Sewing machines have within a few years made rapid advances in this country. It is already used for producing articles greatly varying both in material and form. To what extent they may ultimately affect labour, either that of needle producers or users, remains to be seen,—perhaps neither so much as might be expected. The sewing machine is quite useless without a good needle. If the inventors and makers of sewing machines would adopt a uniformity of needles without a thick shoulder, it would be advantageous to the makers and users of such needles. We suggest to persons when ordering sewing machine needles, to be very explicit, and if possible, to send a pattern.

DIRECTIONS FOR ORDERING NEEDLES.

The length and substance of a needle should be proportioned to the particular work on which it is used.

The Sharps are those usually called 'Sewing needles.'

Short Sharps are suited for rather coarser work. This length of needle was first introduced by A. Mor-

rall, for Tailors, but is often used for household work. The Ground downs are also for tailors, and are *shorter* than the Short Sharps.

The Betweens are still *shorter* than the Ground downs, half a size thicker, and with stronger points; they are useful for strong sheetings, stay-making, and shoe-binding.

The Blunts are half a size thicker and a size shorter than Betweens, and have still stronger points, being suited for the heaviest work, such as bed-ticks, shoe-binding, stay-making &c. The larger sizes of Betweens and Blunts, do for sewing carpets, and the smaller for binding hats.

The Straw are suited for millinery and light work, and they are often made double length, for sewing fents in Manchester.

The following is a form for ordering needles:—

Sharps	1	2	3	4	5	6	7	8	9	10	11	12
	3 to 7	4 to 8	5 to 9	5 to 10	6 to 10	7 to 11						
Short	1	2	3	4	5	6	7	8	9	10		
Ground Downs	1	2	3	4	5	6	7	8	9	10	4 to 7	
Betweens	1	2	3	4	5	6	7	8	9	10		
Blunts	1	2	3	4	5	6	7	8	9	10		
Straw	1	2	3	4	5	6	7	8	9	10		
Harness	1	2	3	4	5	6	7	8				
Darners	1	2	3	4	5	6	7	8	9	10	3 to 7	4 to 8
Double Long	16	17	18	2	3	4	5	6	7	&c.		
Steel Netting Needles	12	13	14	15	16	17	18	19	20			
—Rug ditto.	14	15	16	17	18	19	20	21	22	23	24	
Stay Casing Needles	14	15	16	17	18	19	20					
Round Bodkins	14	15	16	17	18	in assorted grosses.						

Sewing needles are sold by the thousand, and the letter “m” is generally used in ordering needles thus, 1m.

Sharps, No. 7; the quantity should be placed over the number. Large needles are ordered by the gross.

Abel Morrall will send, on application, printed forms for ordering all kinds of needles and thimbles.

It may be interesting and amusing to conclude with “The Husband’s Complaint,” and the “Wife’s Answer” respecting fancy work:—

THE HUSBAND'S COMPLAINT.

I hate the name of German wool in all its colours bright;
Of chairs and stools in fancy work I hate the very sight;
The shawls and slippers that I've seen, the ottomans and bags,
Sooner than wear a stitch on me, I'd walk the streets in rags.

I've heard of wives too musical—too talkative—too quiet;
Of scolding and of gaming wives, and those too fond of riot,
But yet of all the errors known, which to the women fall;
For ever doing fancy work, I think exceeds them all.

The other day when I went home no dinner was for me,
I asked my wife the reason, she answered one, two, three;
I told her I was hungry and stamped upon the floor,
She never even looked at me, but mutter'd one green more.

Of course she made me angry,—she didn't care for that,
But chatters while I talk to her, a white and then a black,
Seven green's and then a purple—just hold your tongue
my dear,
You really do annoy me so, I've made a wrong stitch here.

And as for conversation with the eternal frame,
I speak to her of fifty things she answers just the same!
'Tis 'yes love, 5 red's and there a black, I quite agree with
you,
'I've done this wrong, 7, 8, 9, 10, an orange, then a blue.

If any lady comes to tea, her bag is first surveyed,
And if the pattern pleases her a copy there is made;
She stares too at the gentlemen, and when I ask her why,
'Tis; "O my love, the pattern of his waiscoat struck my eye.

And if to walk I'm inclined ('tis seldom I go out,)
At every worsted shop she sees, oh how she stares about;
And there 'tis, "Oh! I must go in, that pattern is so rare,
"That group of flowers is just the thing I wanted for my chair

Besides, the things she makes are such touch-me not affairs,
I dare not even use a screen—a stool—and as for chairs!
'Twas only yesterday I put my youngest boy on one,
And until then, I never knew my wife had such a tongue

Alas for my dear little ones, they dare not move or speak:
'Tis, "Tom be quiet, put down that bag, Harriet where's
your feet?"

Maria standing on that stool,—it was not made for use,
"Be silent all—three green's, one red. and then a puce.

Ah! the misery of a working wife, with fancy work run wild,
And hands that never do aught else for husband or for child;
Our clothes are rent and minus strings, my house is in disorder,
And all because my lady wife has taken to embroider.

I'll put my children out to school—I'll go across the sea,
My wife's so full of fancy work, I am sure she won't miss me;
E'en while I write she still keeps on her one, two, three and
four,
'Tis past all bearing, on my word I'll not endure it more.

THE WIFE'S ANSWER.

Well to be sure, I never did, why what a fuss you make,
I'll first explain myself, my dear, a little for your sake:
You seem to think this worsted work is all the ladies do,
A very great mistake of yours, so I'll enlighten you.

I need not count, for luckily, I'm filling up just now,
So listen, dear, and drive away those wrinkles from your
brow:—

When you are in your study, love, as still as any mouse.
You cannot think the lots of things I do about the house.

This morning after breakfast I heard the children spell,
And I'm teaching little Mary to gather and to fell;
I paid my washing bill, and then I went to see
What contents in the larder for our dinner there might be.

I've finished Tommy's pinafore, and fed the green canary,
I've hemmed a duster, & I've made a bonnet cap for Mary
I've practised that concerto thing, you thought so very fine;
I've written all the notes, as well to ask our friends to dine.

I've filled my vases with fresh flowers, so fine they are & full,
And after that—I will confess—I sorted out my wool;
I've read that paper setting forth the sweet confiding trust,
Husbands should cherish for their wives, and think it very
just.

I've settled all my weekly bills, and balanced my accounts,
 With a little lot of German wool to make up the amounts,
 Ah! now at last my reasoning convinces you I know,
 That pleasant smile—and yes, my love—it does become
 you so;

Besides, to tell the truth, all the worsted work I do,
 My bag, my cushions & my chairs, are in compliment to you,
 I made a set of night-shirts, and did you not declare
 That the rending of the calico was more than you could bear.

I knit some lambs wool stockings, and you kicked up such a
 rout,
 And ask'd how soon my ladyship was going to have the gout!
 So now, my dear, entirely to please you I declare,
 I've worked this splendid arabesque upon my vesper chair.

Two hearth-rugs and an ottoman, seven chairs, & after that
 I hope to do some groups of flowers, and a handsome car-
 riage mat,
 Enough of banter; yet believe one word before we part,—
 The rest perhaps was fable; but this is from the heart,—
 The loving wife, right cheerfully, obeys her husband still,
 And will ever lay aside her frame to meet his lordly will.



HERALDIC DESCRIPTION OF NEEDLE MAKERS' ARMS.

Vert, three needles in fesse, each ducally crowned or.
 CREST,—A Moor's head couped at the shoulders,
 in profile, ppr. wreathed about the temples or. and gu.
 vested round the shoulders or. in his ear a pearl.

SUPPORTERS,—Dexter, a man; Sinister, a woman,
 both ppr. each wreathed round the waist with leaves of
 the last; in the woman's hand a needle or. the suppor-
 ters are commonly called Adam and Eve.

J. R. APPLETON, F. S.

H. BRIDDON, Printer, 55, Faulkner-st., Manchester.

"A STITCH IN TIME SAVES NINE."



W. H. WALTON'S

SUPERIOR

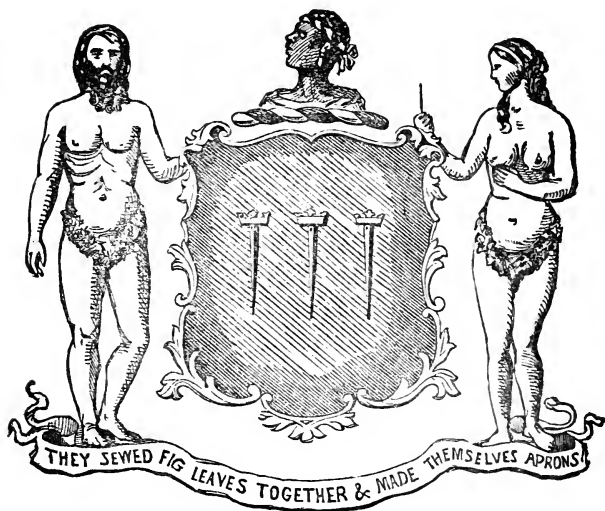
ANGOLA, CASHMERE,
SILK, &c.,
ON REELS, FOR MENDING.

"An Article brought out by a Manufacturer of Macclesfield, must prove a great convenience to our industrious wives and daughters. The want of handy mending material for *my Stockings*, (so long complained of,) is now supplied in all requisite colours and qualities by these Bugle Mendings."

Supplied Wholesale by Leading Houses in London and Manchester. Retail by the Berlin Wool & Smallware Dépôts throughout the Kingdom.

N.B.—Trade Mark, The Bugle, Entered at Stationers' Hall.

NEEDLE MAKERS' ARMS.



MICHAEL MORRALL is informed that a Family, named Quant, have used his name to forward their interests with Manufacturers & Merchants in obtaining Situations of trust, without his Authority. One of this Family held the Office of Book-keeper at 7, High Street, Manchester. He was discharged and a character refused by Michael Morrall.

L. ARDERN,

MANUFACTURER OF

EXTRA QUALITY

CROCHET COTTON,

SUPERIOR

Polished and Six Cord

SEWING-THREAD.

STOCKPORT.

L. ARDERN begs to intimate that his well-known "EXTRA QUALITY CROCHET COTTON," may be had Wholesale from the Principal Warehouses in London, Manchester, &c., &c., and Retail from all first-class Haberdashers throughout the United Kingdom.

GLENFIELD PATENT STARCH,
USED IN THE ROYAL LAUNDRY,
AND Pronounced BY HER MAJESTY'S LAUNDRESS,
TO BE
THE FINEST STARCH SHE EVER USED.
Sold by all Chandlers, Grocers, &c., &c.
WOTHERSPOON & CO., GLASGOW AND LONDON.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

COTTRILL'S  **PATENT**

FOUR-SIDED SAIL NEEDLE.

This Needle is superior to all others, in consequence of its having **FOUR EQUAL SIDES**, instead of three unequal ones; it makes a smaller hole in the canvas, and allows the thread to pass with greater facility, the Eye being in a right line with two of its angles.

It has been fully tested by the first Sail Makers in Liverpool and Glasgow, and pronounced by them to be "infinitely superior to all others as a Seaming Needle," for the reasons above stated, admitting of a very beautiful finish to the work.

To the workman the superiority of this Needle cannot be too well known, . . its **FLAT** sides at once adapting themselves to the fingers, saving the workman much pain, and it is not liable to jump. It is also invaluable to Tent Makers as no wet can ever follow this needle.

**SOLD BY RESPECTABLE NEEDLE MANUFACTURERS & SHIP CHANDLERS
IN THE UNITED KINGDOM.**

**GENERAL
HOSIERY MANUFACTURES.
JAS. E. NELSON,
No. 27, PICCADILLY, MANCHESTER.**

All kinds of Scotch and Welsh Knitted Hosiery.

UNITED KINGDOM ALLIANCE

FOR THE

LEGISLATIVE SUPPRESSION OF THE LIQUOR TRAFFIC.

PERMISSIVE BILL

FOR THE

Voluntary Prohibition of the Liquor Traffic.

It is not proposed by this measure to ask for an imperial enactment there and then prohibiting the traffic in intoxicating liquors, but simply to secure a reference of the question to public opinion. Thus the law would not operate within such districts as were not wishful to secure its benefits, but would only take effect as to the results of a direct expression of a preponderating public opinion.

The Preamble of the Bill sets forth that..

"Whereas the common sale of intoxicating liquors is a fruitful source of crime, immorality, pauperism, disease, insanity, and premature death; whereby not only the individuals who give way to drinking habits are plunged into misery, but grievous wrong is done to the persons and property of Her Majesty's subjects at large, and the public rates and taxes are greatly augmented; and whereas it is right and expedient to confer upon the ratepayers of cities, boroughs, parishes, and townships the power to prohibit such common sale as aforesaid—Be it therefore enacted, &c.

The bill itself provides that, on application of any district, the votes of the ratepayers shall be taken as to the propriety of adopting the provisions of the act; but that a majority of at least two thirds of the votes taken shall be necessary in order to decide that question in the affirmative.

The act itself would when so adopted, prohibit within that district all traffic in intoxicating liquor for common purposes, but would leave in the hands of the justices the power to appoint an agent who should sell for purposes declared legal by the act.

"The proposal of the Grand Alliance well deserves a careful consideration--the plan of enabling a certain proportion of the inhabitants in every district--a proportion considerably above the commercial majority--to give the magistrates authority for placing the district under a general permissive act, passed with such modifications as, according to the act's provisions, may be allowed in the peculiar local circumstances." LORD BROUGHAM'S Address at the Social Science Congress, Glasgow.

United Kingdom Alliance Offices, 41, John Dalton-st., Manchester, and 335, Strand, London.

HYDROPATHIC

ESTABLISHMENTS,

MATLOCK BANK,

Near Matlock Bridge, Station,

DERBYSHIRE.

CONDUCTED BY MESSRS. DAVIS BROTHERS,
Formerly at Mr. Smedley's Establishment,
Terms:---Board, Lodging, and Baths, 2s. 6d. per day.

The mild system of Water Treatment is carried out according to MR. SMEDLEY'S Books, which may be had at each Establishment.

Matlock Bank can scarcely be surpassed for its Health Restoring Qualities. Each Establishment commands Fine Prospects, and at the same time are well sheltered from the North and East Winds.

SOUTH VIEW ESTABLISHMENT,

CONDUCTED BY MR. & MRS. RALPH DAVIS.

The Original Managers at Mr. Smedleys beg to return their grateful thanks for the patronage they have received and respectfully solicit a continuance of the same

PROSPECT ESTABLISHMENT.

Mr. & Mrs. Thomas Davis return thanks for past favors and beg to inform their friends that since last summer they have greatly increased their accommodation by adding the adjoining premises.

TORR HOUSE ESTABLISHMENT,

CONDUCTED BY MR. & MRS. GEORGE DAVIS,
who beg respectfully to announce to the Public that they treat Patients on the same plans as practised at Mr. Smedley's.

WILLIAMS & TAYLOR,
Smallware, Sewing Cotton,

AND

GENERAL HABERDASHERY

WAREHOUSEMEN,

54, Church Street, MANCHESTER.

N.B. Orders by Post well and Promptly Executed..

HOMŒOPATHIC MEDICINE CHESTS & CASES,
from SIX SHILLINGS & upwards, CARRIAGE FREE.

HOMŒOPATHIC GUIDE to the use of the Medicines
POST FREE. HOMŒOPATHIC TOOTH POWDER,
ONE SHILLING PER BOX...J. BURY, Homœopathic
Chemist, 9, KING STREET, MANCHESTER.

DOWDY'S TEMPERANCE HOTEL,

KING STREET, STIRLING.

Parties visiting this Hotel (*to which a large addition has been made*) will find in it a Home; the Parlours are Spacious, the Bedrooms Excellent. Established in 1841.

MRS. MULLET'S Commercial Boarding House,
22, Broad-st., Union-st., Aberdeen.

**HYDROPATHIC ESTABLISHMENT, ROCK SIDE HOUSE,
MATLOCK BANK, DERBYSHIRE:**

Terms, 21s. to 25/6 per week. Prospectuses on application.

Proprietor.---Mr. Charles Rowland.

WILLIAM IRWIN, Stationer, Printer, Engraver,
and Lithographer, 5, Princess-st, **MANCHESTER.**

APARTMENTS, MATLOCK BANK.

MRS. J. WALKER,

Returns thanks for past favours, and begs to inform her
friends that she has removed from Ash Cottage to
more convenient premises

No, 3, Rock Side Terrace.

JONAS BROOK & BROTHERS,

MANUFACTURERS OF

SEWING COTTON,

CROCHET & EMBROIDERING.

MELTHAM MILLS, HUDDERSFIELD.

FOR SEWING MACHINES,

Use Brook's Patent Glacè for Upper Thread, and Brook's Prize Six Cord (soft) for Under Thread, in 200 or 500 yards, White, Black, and Colors.

The Glacè Thread will be found an excellent substitute for Silk, and being made from the best quality of Cotton, it retains its strength in washing, and is not injured by the friction of the needle.

In the INTERNATIONAL EXHIBITION, CLASS 18, Messrs. Brook & Bros. exhibit a very handsome case of Cotton Threads, Crochet and Embroidering Cottons, in various processes of manufacture.

They also exhibit in the Machinery department, Class 7A, *in motion*, a SELF-ACTING SEWING COTTON WINDING MACHINE, a new and most interesting invention securing the correct lengths, and performing an extraordinary amount of excellent work.

20, CANNON STREET, WEST, LONDON.

2, PORT STREET, MANCHESTER.

76, CASTLE STREET, BRISTOL.

25, COCHRANE STREET, GLASGOW.

117, BOULEVART de SEBASTOPOL. PARIS.

32, VESEY STREET, NEW YORK.

4, CUSTOM HOUSE SQUARE, MONTREAL.

DENBY & Co., DRAPERS, LEEDS,

Will on receipt of 13 PENNY STAMPS forward post free in a neat morocco case, 100 of Abel Morrall's celebrated Egg-eyed-Needles. "Warranted to carry a Large Thread, not to Cut in the Eye, nor Drag at the Head."

THE GREAT SECRET in obtaining GOOD TEA is to purchase it at a proper Tea Establishment. The Best Places in Manchester are the Three Tea Establishments of WM. SATTERTHWAITE---the one on Piccadilly, nearly opposite the Queen's Hotel; the other at the top of Oldham Street, corner of Swan Street; and the third, 160, Deansgate, Manchester. Wholesale buyers, who can pay ready money, will receive every attention on calling at the Wholesale Department, 53, Piccadilly. The best and purest COCOA is Satterthwaite's Genuine Trinidad.

SAMUEL SMITH

Manufacturer by Patent Machinery of
HEILDS AND SLAYS,
ECCLESHILL, Near LEEDS.

THIMBLES.

MMORRALL'S Thimbles have long been highly approved of. They are stamped with a number which enables customers to select the sizes they require, to complete their assortment; they also bear the name of the manufacturer. He strongly recommends his Tailors' Best Steel Thimbles; The Ladies' Best White Metal Thimbles, combine the durability of steel with the lightness and other advantages of Sterling Silver, their brightness increases with the length of wear.

NEEDLES.

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